

19. (a) Write an essay about Innate immunity.

Or

- (b) Give detailed account on Acquired immunity.
20. (a) Explain in detail on antigen – antibody interactions.

Or

- (b) Monoclonal antibodies – Discuss in detail.

SECTION C — ($3 \times 10 = 30$)

Answer any THREE questions.

21. Write an essay about structure and functions of virion.
22. Explain in detail on Bergey's system of bacterial classification.
23. Briefly describe the culture techniques of bacteria.
24. Write brief account on classification of immune system.
25. Explain in detail about immunodiagnostic methods.
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S.No. 2637

P 22 BOCC 1 B

(For candidates admitted from 2022–2023 onwards)

M.Sc. DEGREE EXAMINATION, NOVEMBER 2022.

Botany – Core Choice Course

MICRO BIOLOGY AND IMMUNOLOGY

Time : Three hours

Maximum : 75 marks

SECTION A — (20 marks)

Answer ALL questions.

- I. Multiple choice questions : ($5 \times 1 = 5$)
1. Prokaryotic cells are more resistant to osmotic shock than eukaryotic cells because
- (a) Their cell wall is composed of peptidoglycan
 - (b) They are selectively permeable
 - (c) They contain osmo regulating porins
 - (d) They block water molecules from entering the cell
2. Which one is true with respect to Archaeobacteria?
- (a) Archaeobacteria are fossils
 - (b) Archaeobacteria are halophiles
 - (c) Archaeobacteria are old living entities
 - (d) Archaeobacteria are photosynthetic

3. Which sterilization agent is most frequently used in hospitals and clinical laboratories for the heat-labile liquid substances or antibiotics

- (a) Dry heat (b) Radiation
(c) Filtration (d) Formaldehyde

4. The Ig that mediates allergic reaction

- (a) IgM (b) IgG
(c) IgA (d) IgE

5. The cross linkage of antigens by antibodies is known as

- (a) Agglutination
(b) Complement fixation
(c) Across reaction
(d) All the above

II. Fill in the blanks : (5 × 1 = 5)

6. _____ enzyme builds the new strand of DNA on each of the original template strands.
7. A virus is made up of _____ and nucleic acid.
8. Molecular formula for phenol is _____
9. _____ system protects our body against disease-causing microbes.
10. The first scientifically approved vaccine was _____

III. Answer ALL the questions in a sentence or two :
(5 × 2 = 10)

11. Define virions.
12. Comment on eubacteria.
13. What is meant by Staining?
14. Define antigen.
15. Define antibodies with examples.

SECTION B — (5 × 5 = 25)

Answer ALL questions, choosing either (a) or (b).

16. (a) Write about branches of microbiology.

Or

- (b) Explain in brief on ultra structure of virus.

17. (a) Discuss in brief account on structure of cyano bacteria.

Or

- (b) Write about the reproduction method of bacteria.

18. (a) Discuss in detail on the chemical methods of sterilization.

Or

- (b) Write an elaborate note on differential staining.